

WHAT IS CLAIMED IS:

1. An information recording and reproducing method in which information is recorded by irradiating a recording track on a recording medium with an energy beam and thereby forming recording marks, said information recording and reproducing method comprising the steps of:

wobbling or deforming said recording track with a predetermined period;

generating a recording clock from a signal obtained by detecting the wobble or deformation of said recording track;

generating said recording marks in synchronism with said recording clock; and

setting a conversion multiplying factor between a period of the signal obtained by detecting said wobble or deformation and a period of said recording clock, [based on pre-recorded information of control data on said recording medium.]

2. An information recording and reproducing method according to claim 1, comprising the steps of:

making quantities of user data recorded per single sector equal irrespective of a value of the conversion multiplying factor used when generating said recording clock from said signal obtained by detecting said wobble or deformation; and

making a length of a buffer area preceding a head of a user data portion or a buffer area following

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a terminus portion of said user data portion longer as the conversion multiplying factor becomes higher. ✓

3. An information recording and reproducing method according to claim 2, comprising the step of keeping a physical length ranging from a head of said buffer area preceding said user data portion to a terminus portion of said buffer area following said user data portion at a nearly same length without depending upon said conversion multiplying factor. ✓

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4. An information recording and reproducing method according to claim 3, comprising the step of conducting recording over a length of said buffer area preceding said user data portion and/or a length of said buffer area following said user data portion in a control data zone of said recording medium beforehand. ✓

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5. An information recording and reproducing apparatus comprising:

an energy beam generator ✓

a power adjusting mechanism for adjusting a power level of an energy beam generated by said energy beam generator; ✓

a holding mechanism capable of holding a recording medium; ✓

a moving mechanism for irradiating said recording medium with said energy beam and relatively moving said energy beam with respect to said recording medium; and ✓

a detector for detecting an energy beam ✓

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wherein quantities of user data recorded per single sector are made equal irrespective of a value of the conversion multiplying factor used when generating said recording clock from said signal obtained by detecting said wobble or deformation; and

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7. An information recording and reproducing apparatus according to claim 6, wherein a physical

length ranging from a head of said buffer area preceding said user data portion to a terminus portion of said buffer area following said user data portion is kept at a nearly same length without depending upon said conversion multiplying factor.

8. An information recording and reproducing apparatus according to claim 7, wherein information of a length of said buffer area preceding said user data portion and/or information of a length of said buffer area following said user data portion recorded in a control data zone of said recording medium beforehand are read as disk data, and based upon the information, the length of said buffer area preceding said user data portion or the length of said buffer area following said user data portion is determined.

9. An information recording and reproducing method comprising the steps of:

irradiating a recording track on a recording medium with an energy beam;

detecting an intensity of an energy beam reflected or transmitted by said recording medium, out of said energy beam with which said recording medium is irradiated;

reproducing information recorded on said recording medium, from an intensity signal of said reflected or transmitted energy beam;

wobbling or deforming said recording track with a predetermined period;

setting a conversion multiplying factor between a period of the signal obtained by detecting said wobble or deformation and a period of said reproducing clock, based on pre-recorded information of control data on said recording medium.

a detector for detecting an energy beam reflected or transmitted in said information recording and reproducing apparatus, said recording track being wobbled or deformed with a predetermined period, a reproducing clock being generated from a signal obtained by detecting the wobble or deformation of said

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recording track, reproduced data being discriminated by taking said reproducing clock as a reference, a conversion multiplying factor between a period of the signal obtained by detecting said wobble or deformation and a period of said reproducing clock being set based on pre-recorded information of control data on said recording medium.